

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Queen Street VOC - Removal Polrep  
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region III

**Subject:** POLREP #1  
removal site evaluation  
Queen Street VOC  
A3YJ  
Martinsburg, WV  
Latitude: 39.4709920 Longitude: -77.9543280

**To:** Response Center RRC, EPA  
Charles Armstead, WVDEP

**From:** Michael Towle, On-Scene Coordinator

**Date:** 5/13/2015

**Reporting Period:** 8/30/2014 thru 5/13/2015

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	A3YJ	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Assessment
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	12/2/2014	<b>Start Date:</b>	11/9/2014
<b>Demob Date:</b>	4/28/2015	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

This Site relates to a suspected release of chlorinated organic contamination in the area of a public drinking water supply.

#### 1.1.2 Site Description

The Site is near the location of a former leaking underground storage tank at a fuel station. After remediation of the leaking tank and following investigation, chlorinated organic (i.e., tetrachloroethylene) contamination was found in soil gas (ground water was not analyzed for the same contamination). The State of West Virginia requested EPA assistance in determining the source and extent of contamination since a contamination in the vicinity of the Site would likely affect a public drinking water supply.

#### **1.1.2.1 Location**

The Site is near the corner of North Queen Street and Lambert Street (now Cloud St.) in Martinsburg, Somerset Co., WV.

#### **1.1.2.2 Description of Threat**

The Queen Street VOC site (Site) is an unknown source of possible chlorinated volatile organic compound (VOC) contamination suspected to be located near the intersection of North Queen Street and Lambert Street (currently named as Cloud Street), in Martinsburg, WV. The Site was discovered during the course of a Leaking Underground Storage Tank (LUST) investigation (LUST No. 98-034) at a gasoline station located near the intersection of North Queen Street and Lambert Street. The Site is located in a commercial area which includes a gasoline station/convenience store and retail strip mall to the north; a vacant grass lot and vacant business to the east; a restaurant to the south; and a farm supply store to the west across North Queen Street. It is suspected that tetrachlorethylene (PCE) may be migrating to the ground water (from an unknown source) and threatening public drinking water supply.

#### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

Two 12,000-gallon underground storage tanks (UST), originally installed in 1964, were removed and replaced with new upgraded USTs at a nearby gasoline station in 1998. Petroleum contamination and perched water were encountered during the UST removal process. Approximately 674 tons of contaminated soil and 7,000 gallons of water were removed during cleanup activities. As a result, a State regulatory investigation was initiated under WV Leaking UST No. 98-034. Investigative activities related to the LUST included removal of identified subsurface soil and groundwater contamination consisting of petroleum hydrocarbons, including gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE). Additionally, analysis of soil gas samples indicated the presence of tetrachloroethene (a.k.a., PCE) in two of three soil gas samples in addition to the common gasoline-related constituents. PCE, which is not a gasoline-related constituent, was detected in soil gas samples collected in front of the Site building at concentrations as high as 3,700 parts per billion volume (ppbv). Groundwater samples collected as part of the investigation had only been analyzed for gasoline-related constituents and had not been analyzed for PCE or other chlorinated solvents. The report prepared for the investigation indicated that groundwater at the Site flows generally to the west, northwest.

The Site is located in a Wellhead Protection Area. A Water Plant is located approximately 0.75 mile southwest of the Site and a public water source is located approximately 1.5 miles west of the Site.

Surface runoff from the area drains to the northwest, west, and southwest. A grass-covered storm water swale is located approximately 200 feet (ft.) west of the Site, across North Queen Street. The swale drains westward to a drain pipe that extends under the farm supply store parking area, and is believed to eventually empty into Dry Run at a location approximately 1,000 ft. southwest of the Site.

Previous investigations in the area have reported that bedrock is encountered at depths ranging from 5 to 12 ft. below ground surface (bgs). Boring logs for boreholes made during installation of monitoring wells (MWs) in 2010 depict void spaces at 11 to 12 ft. bgs (in MW-11) and at 10 to 14 ft. bgs (in MW-13). The boring log for another monitoring well (MW-12) indicated the presence of multiple clay-filled voids from near the surface to 29 ft. bgs. Depths to groundwater were reported to range between 7 and 20 ft. below tops of casings in the monitoring wells. Groundwater flow direction was reported as generally to the northwest. Consultants for the property owner surmised that contaminated groundwater from the Site had migrated off site through fractures in the bedrock.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

After development of a sampling plan, obtaining access to the property, and procuring laboratory space, an onsite sampling event was begun.

### 2.1.2 Response Actions to Date

A. On November 19, 2014, the EPA START contractor mobilized to the Site to conduct a site reconnaissance to locate monitoring wells that had been installed during a State LUST investigation and evaluate the wells for potential sampling. START located twelve of the thirteen existing monitoring wells at the Site. Many of the wells could not be accessed due to a special five-sided bolt that was used to secure the well covers. Six of the wells were accessible (MW-2, MW-6, MW-7, MW-11, MW-12, and MW-13). Two of the accessible wells had a broken or missing well cover (MW-6 and MW-11) and two of the wells located on the west side of North Queen Street had cracked/damaged well pads (MW-12, MW-7). None of the wells had locks installed on the well caps. START measured the depth to water (DTW) and depth to bottom (DTB) for all the accessible wells and collected GPS coordinates for all the wells using a hand held GPS unit.

B. START prepared a sampling plan to establish sampling procedures for collecting groundwater samples from the accessible monitoring wells and to specify analytical parameters, methods, and quality assurance protocols for the project. The primary objective of the investigation was to determine if groundwater had been impacted by non-petroleum related contaminants, such as PCE. Following approval of the sampling plan by the OSC on November 7, 2014, START coordinated with the EPA Client Services Team (CST) to schedule analytical services.

C. On December 2, 2014, START mobilized to the Site and began conducting groundwater sampling activities. Groundwater samples were collected using a submersible Monsoon pump and polytetrafluoroethylene (PTFE)-lined tubing. DTW was measured in each well prior to commencing sampling to determine the well water volume. A minimum of three well volumes of water was purged from each well prior to collecting the groundwater sample. Purge water was collected in a 55-gallon drum for storage until disposal arrangements could be made. A total of 11 water samples were collected, including seven groundwater samples, three field Quality Control (QC) samples, and one purge water (IDW) sample. The samples were packaged and shipped to an EPA-assigned Contract Laboratory Program (CLP) laboratory to be analyzed for Target Compound List (TCL) volatile organic compounds (VOC). The IDW purge water was also analyzed for Toxicity Characteristic Leaching Procedure (TCLP) parameters to determine disposal requirements.

D. Validated analytical results for the groundwater samples indicated low level detections of several gasoline-related VOC constituents and other contaminants. Monitoring well MW-2, located nearest the convenience store UST field, had the following VOCs detected: acetone - 21 micrograms per liter ( $\mu\text{g/L}$ ); benzene - 0.20  $\mu\text{g/L}$ ; cyclohexane - 0.62  $\mu\text{g/L}$ ; isopropylbenzene (a.k.a., cumene) - 0.22  $\mu\text{g/L}$ ; and MTBE - 0.97  $\mu\text{g/L}$ . All the compounds detected in MW-2 were common gasoline constituents except for acetone. MTBE was also detected in monitoring wells MW-6 at 0.22  $\mu\text{g/L}$  and MW-12 at 0.20  $\mu\text{g/L}$ . MW-6 is located in a restaurant parking lot and MW-12 is located on the west side of North Queen Street across from the convenience store/gasoline station. The only other VOCs detected in the samples were chloromethane and chloroform. Chloromethane was detected in MW-13 at 0.16  $\mu\text{g/L}$ . Chloroform, a byproduct of disinfection during water treatment, was detected in duplicate samples collected from monitoring well MW-7 at 0.30  $\mu\text{g/L}$  and 0.33  $\mu\text{g/L}$ , respectively. The only exceedance of WV De Minimis standards for groundwater observed was for chloroform in monitoring well MW-7, which slightly exceeded the 0.19  $\mu\text{g/L}$  standard. However, the results for chloroform were well below the Maximum Contaminant Level (MCL) for chloroform in drinking water (80  $\mu\text{g/L}$ ).

E. Tetrachloroethylene or PCE was not detected in the wells.

F. START made arrangements for disposal of the drum of well purge water (IDW) generated during the sampling event. The drum of purge water was picked up on April 28, 2015 and transported to Cycle Chem, Inc., Lewisberry, PA, for disposal.

G. The OSC forwarded the analytical results to the State of West Virginia and is currently evaluating those results with the State.

### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

There is no activity to identify a PRP since no contamination is found.

#### 2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

Coordinate with the State of West Virginia regarding the analytical results and removal site evaluation.

#### 2.2.1.1 Planned Response Activities

None.

#### 2.2.1.2 Next Steps

Coordinate with the State and conclude the removal site evaluation.

### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

No information available at this time.

## 5. Definition of Terms

No information available at this time.

## 6. Additional sources of information

No information available at this time.

## 7. Situational Reference Materials

No information available at this time.